

## Preparation of maleic anhydride

## Abstract

- 5 A process for preparing maleic anhydride by oxidizing n-butane in the gas phase under heterogeneous catalysis with oxygen-containing gases over a vanadium-, phosphorus- and oxygen-containing catalyst in a reactor unit at a temperature in the range from 350 to 500°C, removing the maleic anhydride formed to form a gas stream which comprises unconverted n-butane and water and recycling at least a portion of the unconverted n-
- 10 butane to the reactor unit, by feeding to the reactor unit an inlet stream having an n-butane concentration of from 0.5 to 1.5% by volume and an oxygen concentration of from 5 to 21% by volume, establishing a pressure at the inlet to the reactor unit of from 0.4 to 2 MPa abs, and converting from 40 to 100% of the n-butane from the inlet stream per reactor pass.

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**ABSTRACT**

A process for preparing maleic anhydride by oxidizing n-butane in the gas phase under heterogeneous catalysis with oxygen-containing gases over a vanadium-, phosphorus- and oxygen-containing catalyst in a reactor unit at a temperature in the range from 350 to 500°C, removing the maleic anhydride formed to form a gas stream which comprises unconverted n-butane and water and recycling at least a portion of the unconverted n-butane to the reactor unit, by feeding to the reactor unit an inlet stream having an n-butane concentration of from 0.5 to 1.5% by volume and an oxygen concentration of from 5 to 21% by volume, establishing a pressure at the inlet to the reactor unit of from 0.4 to 2 MPa abs, and converting from 40 to 100% of the n-butane from the inlet stream per reactor pass.